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Kitchen Storage Space

Clara E. Jonas

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REMODELED CUPBOARDS

These two remodeled cupboards saved the homemaker many steps, since a pantry formerly used as a storage place for frequently used utensils and supplies was no longer needed. A middle support, to which the door catches had been fastened, and which had been removed to make the interior of the cupboard more accessible, was added to one side of the cupboard to make the doors meet in the center. A friction catch was placed at the bottom front of the cupboard to hold the doors shut. Shelves originally the depth of the cupboard were cut away in the center to allow for one row of articles on a shelf and space for the racks on the doors when closed. The shallow rack at the top of the right-hand door was made from a strip of lattice and holds recipe cards which the worker can read as she prepares food.

The drop-leaf table at the right was made from a bridge table. It allows more floor space when folded

KITCHEN STORAGE SPACE

CLARA E. JONAS[1]

MOST homemakers would like to do their kitchen work with the least expenditure of time and energy, and with the greatest amount of satisfaction. The design and arrangement of storage space can contribute to this achievement.

This bulletin gives the results of experiences of families themselves and of experiments at Cornell.[2] Reports made by the home-demonstration agents in New York State also helped the author to analyze the problems that had prompted 297 homemakers to seek advice in improving their kitchens. The results show that kitchen problems may be due to storage facilities inconveniently placed, poorly planned, or unwisely used. Cupboard improvements have been made in connection with the extension work of the College in several counties in New York State; a study of those made by 70 families in Wayne County indicated that these families profited by the organization of supplies and equipment at work centers where used and by flexibility in the construction of storage spaces to accommodate equipment of various sizes and shapes.

The photographs in this bulletin show some of the improvements made by families in New York State in kitchen storage spaces, as a result of the home-management extension program.

It is hoped that the ideas in this bulletin will be helpful to other families in solving their storage problems.

SOME USEFUL PROCEDURES

Successful cupboard arrangement is dependent upon having the large equipment, such as the stove, work surfaces, sink, and refrigerator placed to meet best the needs of the persons working in the kitchen.[3] No two families whose cupboards are pictured in this bulletin have solved their problems in the same way, since they did not have exactly the same situation, equipment, or interests; but from the experience of many families that have spent thought, effort, and money to make their kitchen cupboards convenient, the following procedures have been found useful in working out a satisfying solution to storage problems:

[1]As home-demonstration agent in Wayne County, New York, and as a graduate assistant at the New York State College of Home Economics, the author has worked in cooperation with Ella M. Cushman and Delpha E. Wiesendanger of the College staff on the improvement of kitchen storage space.

[2]Kitchen storage spaces in relation to management. By Clara E. Jonas. Thesis for degree of M.S., Cornell University, Ithaca, New York. 1938.

[3]For further information, see Cornell Extension Bulletin 354, *The Development of a Successful Kitchen*, by Ella M. Cushman.

FIGURE 1. A PLACE FOR EVERYTHING AND EVERYTHING IN ITS PLACE

Ingenuity, resourcefulness, and family members working together made this cupboard possible. Originally, there was no work surface, as the cupboard extended from the ceiling to the floor. By cutting away a 20-inch strip of that part of the cupboard that was above table height, and removing it for the full width of the cupboard, a counter, or work surface, was made over what was left of the base cupboard. Shelves were designed to fit the articles stored on them. Window-shade rollers with oilcloth are used in place of doors. Drawers, much deeper than required for the utensils stored in them, have sliding trays suspended on races in the top to hold small articles. A delightful color scheme, enjoyed by the family, makes this kitchen a pleasant place in which to work

FIGURE 2. THE SAME CUPBOARDS AS THOSE SHOWN IN FIGURE 1, WITH THE SHADES PULLED

FIGURE 3. A REMODELED CORNER

In the kitchen shown in figure 1, a corner cupboard was made from a square cupboard that jutted out from the wall and cut off some daylight. Rings on the window curtains make it easy to slide the curtains back and forth as needed to let in or shut out light and sun

All smaller equipment and supplies are sorted according to the place where they will most often be used; unnecessary duplicates and articles never used are eliminated. Each article is then stored at the work center where it is most often used or where its use is begun. For example, if sauce pans used at the stove are first filled with water or vegetables at the sink,

it may be better to store them near the sink; but if water from the tea kettle is first put into them, it may be better management to store them near the stove. If, in cooking cereal, the cereal is first placed in cold water, steps and motions may be saved if both the cereal and the utensil in which it is cooked are stored near the sink. If an article such as a paring knife is used frequently at both the sink and the work table, it may be good management to store one at each place.

The storage space at each work center is made to accommodate all the materials used there, within comfortable reach, without waste space, and without unnecessary handling of equipment. Stooping or reaching for equipment may produce excessive strain and irritation. In planning the shelves, paper patterns, as shown in figure 4, have been found useful to

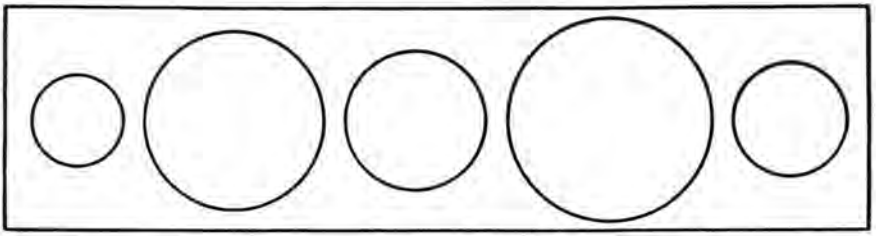


FIGURE 4. A PAPER PATTERN OF THE ARRANGEMENT PLANNED FOR A SHELF

Each stack of dishes has been outlined, with sufficient space left between stacks to allow the hand to grasp a dish comfortably

test the width and the distance apart in relation to the pieces of equipment or the stacks of dishes to be stored on them. In this way one is able to judge whether all equipment has been provided for, and to rearrange it until the most desirable plan has been obtained. These patterns also serve to make clear to the builder exactly what is wanted.

TO MAKE SPACE MOST USEFUL

Certain devices have been developed that help to make good use of the available storage space.

SHELVES

Width and thickness

Shelves only wide enough to accommodate one row of dishes, equipment, or supplies, and placed as close together as materials on them will permit, make it easy to find articles without unstacking unlike pieces or reaching over others (figure 9). When making shelves, it is convenient to have at hand lumber in several widths and thicknesses. Three-fourths-

inch lumber is suitable for most purposes. Thinner lumber is satisfactory if the equipment placed on the shelf is not so heavy as to make the shelf sag.

Supports

Shelves may be supported in a number of ways. The best methods, however, allow for adjustment to accommodate the equipment and to take into account the differences in the size and shape of new equipment, packaged goods, and the like.

Adjustable shelf supports may be clamped into perforated metal strips, which are fastened into the cupboard as in figure 5; or grooved wood strips of various shapes may be used with adjustable supports, as in figure 6; or cleats may be fastened with nails or screws to the sides of the cupboard, as in figure 7, except in metal cupboards, or in a rented house where it is not permissible to make structural changes. To be adjustable, shelves should not be fastened to the cleats.

FIGURE 5. ADJUSTABLE SHELVES—METAL STRIPS AND SUPPORTS

Perforated metal strips and supports in this cupboard make the shelves adjustable. The stripping and supports can be purchased by the linear foot in some hardware stores

FIGURE 6. ADJUSTABLE SHELVES—CLEATS

Cleats on notched strips of wood inside each end of the cupboard make it possible to adjust the space between shelves. This cupboard is supported at each side by extensions reaching to the floor. The table, which is not attached to the cupboard, is placed under the lowest shelf to make a convenient work space

FIGURE 7. DOUBLING THE CAPACITY OF A CUPBOARD

Narrow, upright, removable shelves, racks on doors, and a sliding tray in the top of the deep drawer have doubled the capacity of this cupboard in a rented house. The temporary shelf at the top left is supported with coffee cans. To provide space for the first narrow shelf, the dinner plates have been divided into two stacks. The apron at the top of this cupboard, which serves only for decoration, makes it impossible to place tall dishes on the top shelf or to place upright partitions there, even though the ceiling of this shelf is several inches higher than the opening

Wide and narrow shelves can be interchanged if the cleats are made the full width of the side of the cupboard (figure 6). When cleats are permanently fastened to the cupboard, new ones are needed each time a shelf is changed to another position. The construction of the permanent cleat used in figure 7 is shown in figure 8. Cleats make more solid supports if they are fastened with screws rather than with nails. A smooth finish results when screws are counter-sunk and the holes are filled. Quarter-round molding and window-stop stock (figures 41 and 52), which can be purchased in from 8-foot to 16-foot lengths, are satisfactory for cleats.

Brackets or large angle-irons can also be used to support either short or full-length shelves (figure 49). Other methods of support are shown in figures 10, 11, 12, 13, and 29. Tin cans or other temporary supports may be used when experimenting with a shelf arrangement, as shown in the top left corner of the cupboard in figure 7. A removable-leg support (figure 12) solves the problem if the shelf with permanent supports is too large, even with turning, to insert in the cupboard. Often the shelf alone can be inserted, and then the legs may be added after it is inside.

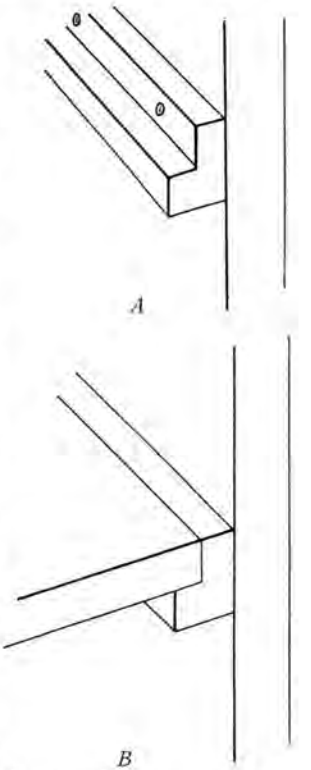


FIGURE 8. A CLEAT TO SUPPORT A SHELF

A. A shelf cleat may be used as a support for narrow shelves, as in figure 7. Flat-head screws secure the cleat to the wall

B. The shelf cleat is here shown with the shelf in position

Kinds

To make the best use of available space, shelves need to be carefully planned. Those that are designed to accommodate all equipment and supplies with the least waste space and in the way that gives the most direct access to materials also help to store the maximum equipment in a given space. The materials to be stored will help to determine the kind of shelf to be used.

Stepped shelves

The process of stacking and unstacking unlike dishes and equipment is irritating and time consuming. A group of stepped shelves (figures 11 and 13) permits the storage of bowls, platters, and odd dishes that are unlike without stacking.

FIGURE 9. OPEN SHELVES ARE A CONVENIENCE

These open shelves within easy reach of the sink have made dishwashing more enjoyable. Since these dishes are in daily use, doors seem unnecessary

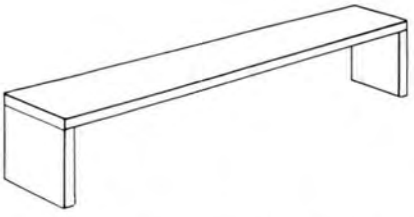


FIGURE 10. REMOVABLE SHELF

This removable shelf has attached supports of the same material. Screws make these supports more steady than nails, and an angle-iron under the shelf keeps the supports from buckling

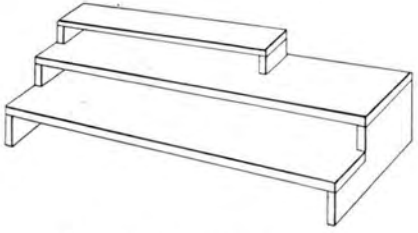


FIGURE 11. STEPPED SHELVES

This group of stepped shelves was designed for odd dishes and equipment. It is pictured in use in figure 13

Sliding shelves

Strain and irritation from stooping and reaching into deep cupboards can be avoided by the use of sliding shelves that bring out equipment as it is pulled forward, thus making it unnecessary to reach over or to move one article to get another. Various kinds of sliding shelves in cupboards below the work surface are shown in figures 14, 15, and 59.

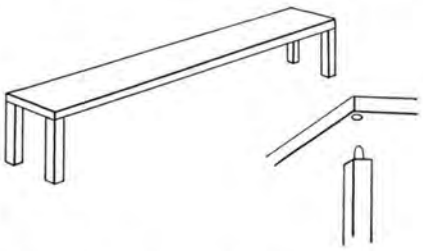


FIGURE 12. REMOVABLE SUPPORTS FOR A SHELF

A shelf with removable leg supports is most useful when otherwise space does not permit placing the shelf in position, or if supports cannot be fastened to the wall of the cupboard

FIGURE 13. STEPPED SHELVES IN USE

A group of removable stepped shelves in the upper left-hand corner of this cupboard separates odd platters and plates. The construction of these shelves is shown in figure 11

Cut-out shelves

If shelves across the end of a cupboard are needed, they may be constructed by cutting out a piece in the front of a full-width shelf (figure 52), or by attaching end pieces to a narrow shelf, a method less likely to result in splitting the wood (figure 15 and frontispiece).

Hanging shelves

Frequently, it is desirable to hang a shelf or group of shelves above or near a work surface. The group in figure 20, designed to hang over a sink,

FIGURE 14. VERTICAL SLIDING DRAWERS

Vertical sliding drawers keep stew-pans and the like in order. Notice that the pulls on these drawers are placed where the worker can grasp them easily. A swivel caster placed at the front and back of each drawer would result in easier opening and closing, but it would be necessary to remove the lower board of the cupboard. Notice that the glass doors do not prohibit the use of a door rack for spices

FIGURE 15. SLIDING SHELVES

The sliding shelves below the work surface make it unnecessary to reach into deep, low cupboards. Wire racks, such as the higher one on the door at the top, can be found in some department or variety stores. The flour and sugar sifters can be purchased separately from kitchen-cabinet companies

FIGURE 16. THE USE OF A BLIND CORNER

Removable dish files make use of the blind corner at the left. The drawer suspended under the upper shelf in the lower (right) part of the cupboard makes use of space otherwise wasted. By placing the drawer pull under the drawer, the door closes easily

shows the shelves far enough apart to permit the placing of a box of soap chips on the lower shelf. Another hanging shelf for the storage of books is shown in figure 6.

Upright partitions

Another way to prevent unnecessary stooping and reaching, and also to store unlike dishes and equipment without stacking them, is to use vertical partitions. Such partitions make use of space at the top or bottom of cupboards that is otherwise not readily accessible (figures 1, 16, 59, and 62). When shallow, flat articles are stored in these files, only the bottom or the top edge of an article, depending upon whether it is in a high or low position, needs to be grasped in order to remove it from the cupboard or to replace it. Upright partitions may be installed directly between two shelves (figure 51) or in a box-like structure to be placed between shelves (figure 7).

These partitions may be of heavy cardboard, wood, or sheet metal, and may be shaped in various ways. Lettuce crating was used for the partitions in figure 29. Three-fourths-inch board was used for those in figure 16, in which excellent use is made of a deep corner; however, thicker partitions take up more space than do those of ply-wood or sheet metal (cover illustration).

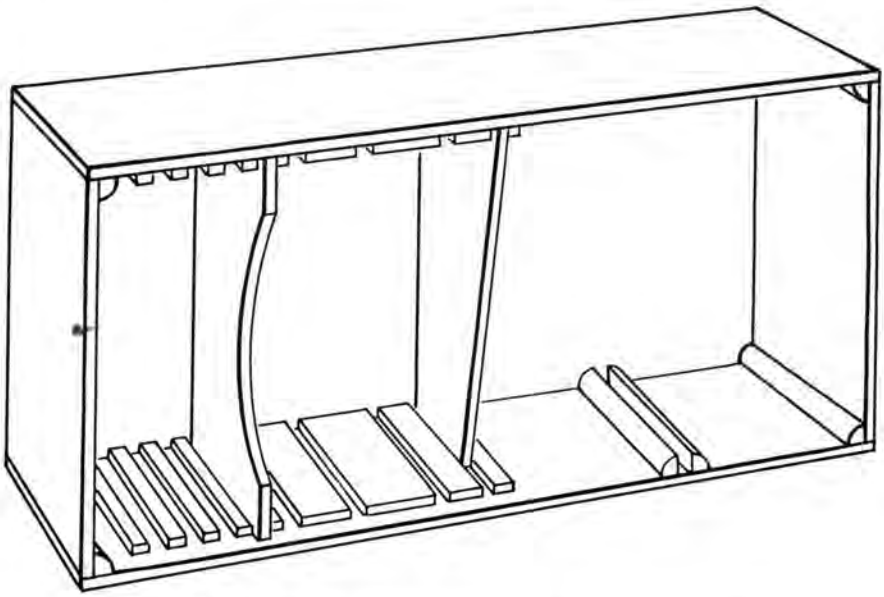


FIGURE 17. A MOVABLE STORAGE UNIT WITH UPRIGHT PARTITIONS
For persons living in rented homes, a movable unit has advantages

The construction of partitions and of the movable box-like structure is shown in figures 17 and 18. The partitions can be shaped in ways suited to their use. The rounded cut-out (figure 18*B*) makes it possible to grasp an article easily. The shape in figure 18*A* is easier to construct and may be used wherever the one in figure 18*B* can be used, except in a deep drawer, such as in figure 25. The shape of the partitions in figure 18*A* is especially suitable for files in a particularly high or low location, as in figures 1 and 31. A rectangular partition, slightly narrower than the shelf (figure 18*C*), may be used instead of either of the others, and is recommended if the partition is made of crating, since crating is likely to split when cut at a diagonal (figure 29); also, a rectangular partition requires less material.

If partitions are made of sheet metal, the edges should be rubbed smooth and the front edge turned over on itself about ¼ inch to prevent cutting one's hands. A curved cut-out is not advisable in sheet-metal partitions because the edges will not turn smoothly. Partitions made of heavy cardboard are useful in temporary arrangements or when nothing more durable can be obtained.

Grooves in which partitions are held in place may be made by nailing or gluing thin strips of wood a little wider apart than the thickness of the partitions and directly opposite each other, on the bottom of one shelf and the top of another, or into the box-like structure as shown in figures 6, 17, and 21. Wooden strips may be cut from ply-wood, window-stop stock, half-round molding, or lattice. It is important that these be cut straight and be rubbed smooth. Some lumber or wood-working shops cut these strips with a rip saw for only a slight charge. Narrow half-round molding can be split in two lengthwise to make slender quarter-rounds. A groove made from slender quarter-rounds is shown in figure 17.

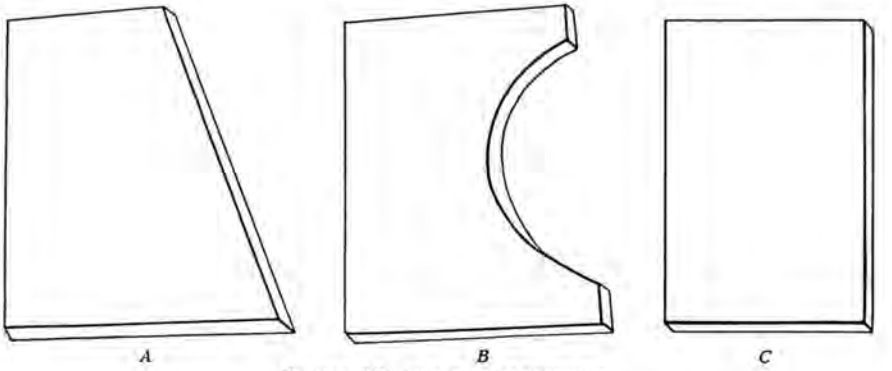


FIGURE 18. UPRIGHT PARTITIONS

The partitions may be made in various shapes, depending on the use

When it is possible to remove the shelves or to pull the cupboard away from the wall and to remove the back, grooves for metal partitions can be made directly in the shelves with a saw (figures 1 and 19*A*). Then the groove may be made smooth and sufficiently wide by pulling the folded edge of a piece of sandpaper through it. The groove need not be more than ¼ inch deep, for if much deeper the shelf may be weakened. In making partitions to fit into saw-grooves, one must allow for a little play; that is, if the shelves are 10 inches apart and the grooves are ¼ inch deep, the partition should be about 10⅜ inches high, which allows ⅛ inch play. Grooves may also be fashioned from sheet metal and nailed down to the shelf, as in figure 19*B*. Some prefer to make the distance between two grooves exactly fit a particular utensil; others make grooves about ¾ inch apart and insert the partitions wherever needed to fit the equipment. Spacings of ⅜ inch, and wider ones, are shown in figure 17. Two rows of screw-eyes or finishing nails have proved a successful makeshift for a groove.

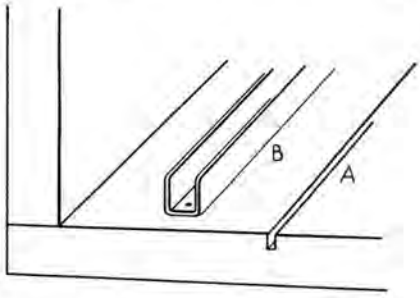


FIGURE 19. GROOVES FOR UPRIGHT PARTITIONS

Groove *A* is made by sawing directly into the shelf. Groove *B* is constructed of sheet metal and is nailed through the center to the shelf

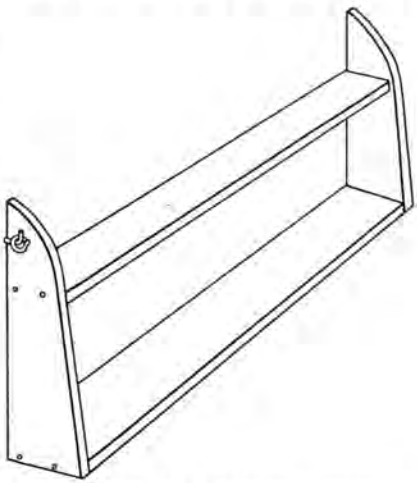


FIGURE 20. A HANGING SHELF

This shelf was designed to hang over the sink. A screw-eye on each end slips over a hook on the wall

Wooden partitions are most satisfactory when smoothed and finished with several applications of a warm solution of one part of turpentine and two parts of boiled linseed oil. All excess oil should be removed within one-half hour after application to prevent gumming. At least a day should be allowed between applications, and the number of them depends upon the amount of oil the wood absorbs. Sections will warp if the oil is not applied to both sides, and the oil on them needs replenishing occasionally, depending upon the weather and the frequency of cleaning. Sheet-metal partitions are most satisfactory when left in their natural state. Both wood and metal partitions may stick in the grooves if they are painted or varnished by the usual home methods.

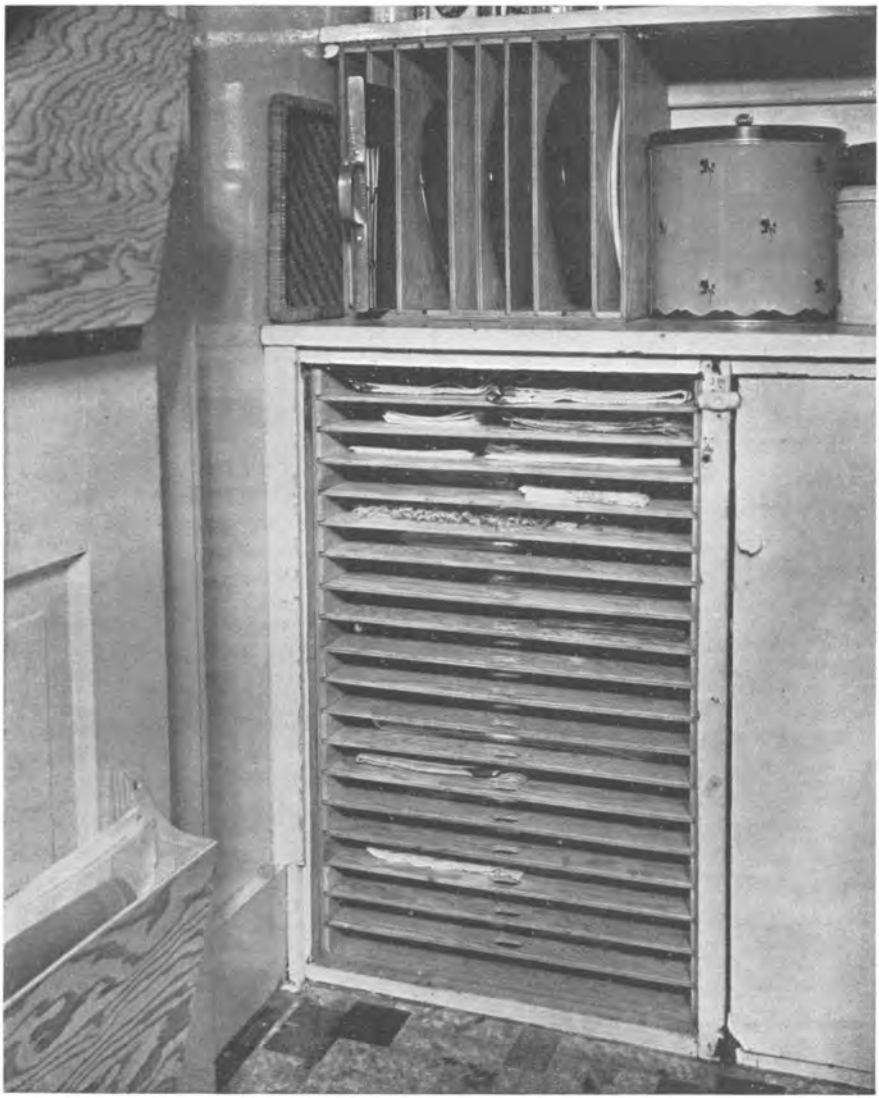


FIGURE 21. SLIDING PARTITIONS

Rectangular file sections are used at the top for the storage of trays. Pieces of linen are stored on removable sliding trays below. The cut-out in the center front of each tray acts as a pull

FIGURE 22. SLIDING PARTITIONS

Both sections of these files are removable. Those at the lower left, resembling sliding trays, simplify the storage of pieces of linen. The circular cut-away makes it unnecessary to pull these trays out except when putting away the linen

DRAWERS

Drawers offer another means of storage, and, like shelves, they are most useful if they are adapted to the articles to be stored in them. Except for the storage of towels and rather large pieces of equipment, most drawers are too deep for efficiency. They become jumbled and overcrowded, causing irritation and loss of time in finding articles. Shallow drawers that permit the storage of only one layer of unlike articles are usually more satisfactory than are deep ones.

Divisions

Divisions in both deep and shallow drawers keep articles in order. The partitions need be only high enough to prevent utensils from slipping out

FIGURE 23. MAKING THE MOST OF DRAWER SPACE

Divisions in these drawers are designed to fit the articles to be stored. The table knives in the sliding tray at the right are kept separate by slits in the tray. Directions for the construction of divisions and sliding trays are given on this page

FIGURE 24. THE USE OF A DEEP DRAWER

By using two trays, purchased at the variety store, in the upper part of this deep drawer, space is left for the storage of the holiday feast platter, which is used only a few times each year. The raised board at the back of the drawer prevents it from being pulled out too far

of place. Most partitions are much higher than necessary; from ½ to 1 inch in height is usually high enough if the article is to be stored in a separate compartment. Window-stop stock lends itself to this purpose. It can be made narrower by splitting it lengthwise with a rip saw. Lattice may also be used, but for most partitions it needs to be made narrower. Enough room should be left between partitions for one to grasp an article comfortably.

FIGURE 25. A DEEP DRAWER MADE INTO A FILE BOX

The partitions in this drawer are removable. The curved cut-away partitions permit the fingers to grasp each article comfortably

Partitions may be fastened to the bottom of the drawer with tiny screws or finishing nails put in from either the top of the divider or from the bottom of the drawer. Removable dividers can be held in place by cleats fastened to the sides of the drawer in much the same way as for the upright partitions in shelves (page 19). The construction of some drawer dividers is shown in figures 23, 24, 25, 26, and 27.

When partitions are permanently fastened, some persons prefer to make them nearly 2 inches shorter than the drawer, allowing an inch of free space at each end for ease in cleaning (figure 27*A*), since then the only corners are those of the drawer itself. In figure 26*B*, the entire divided section is a framework that can be removed, the outer edges serving as a race for the sliding tray shown in figure 26*A*. Care is needed to make this outer frame high enough to allow the tray to run freely above the articles in the bottom part of the drawer.

Sliding trays in deep drawers

Deep drawers can be made more orderly by the use of shallow sliding trays in the top for small articles (figures 23 and 24). Sliding trays may be made to slide from front to back or from side to side of the drawer. They should be made about ¼ inch narrower than one width of the drawer and only one-half as long as the other dimension to permit access to the contents in the bottom of the drawer as the tray is slipped from side to side or from back to front. Lattice makes good sides for sliding trays, and 3-ply wood a good bottom. The tray slides more easily and is stronger when the side pieces are placed outside the edges of the bottom rather than

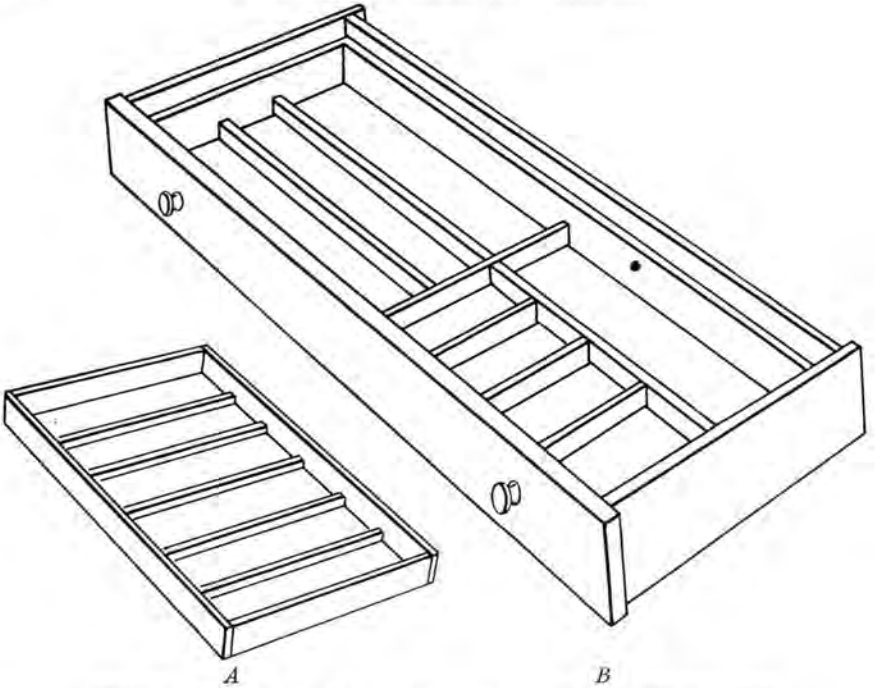


FIGURE 26. A DRAWER MADE CONVENIENT WITH DIVIDERS AND TRAY

A. This shallow sliding tray is made half as long as the drawer (*B*) and about $\frac{1}{8}$ inch narrower to slide on the frame in the drawer

B. The frame and dividers in this drawer are removable. The outer edge of the frame serves as a race for the sliding tray (*A*)

when they rest on the bottom board (figure 26*A*). Races upon which the tray slides and is suspended are satisfactorily made of window-stop stock that has been smoothed. Dry soap rubbed on the bottom of the tray and on the races helps to make the tray slide easily. The construction of sliding trays is shown in figures 26*B* and 27.

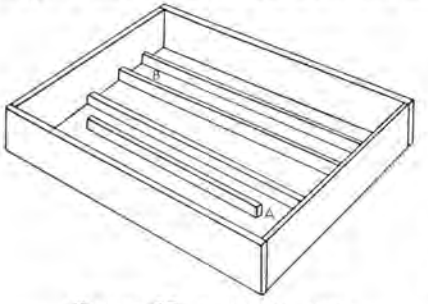


FIGURE 27. A SLIDING TRAY

This sliding tray is made with a ply-wood bottom. Divider *A* makes for ease in cleaning. Lattice bounds the bottom, and window-stop stock cut in two lengthwise is used for the dividers (*A* and *B*)

Drawer for silver

Silver is apt to be marred when it is stored loosely in a drawer; and yet if wrapped in paper or in cloth cases, it is not so easily accessible. One good method is to have a special drawer for silver (figure 28). Cotton flannel treated to prevent tarnish or dark outing flannel makes a good lining for the drawer and the dividers. White or light-colored cloth or tissue paper is not desirable for use

with silver because it may have been bleached with sulfur which tarnishes silver.

The slotted support for some of the silver in figure 28 resembles that

FIGURE 28. DRAWER FOR FLAT SILVER

This drawer stores a silver service for twelve persons. The frame shows the construction of the support in the front of the drawer

found in most commercial silver chests. Care should be taken not to make the slots too wide nor too shallow. For knives, they should be as far above the bottom of the box as one-half the width of the knife handles, so that the handles held in place by the blades in the slots rest firmly on the bottom of the drawer. No dimensions for slots are given as silver patterns vary; the support should be made to fit the silver to be stored, and should not be so long that it pushes out the sides of the drawer. Wood about 1½ inches thick makes a good support.

To line the drawer, heavy cardboard pieces may be cut to fit the bottom and sides loosely. Flannel is then laid over the upper side of each piece and the raw edges, extending over about ½ inch, are glued flat to the under side. The bottom piece of covered cardboard is not glued to the drawer, but the side pieces are. The slotted support and the dividers are covered with flannel. For fitting the slots, the flannel is snipped with scissors. The raw edges are pulled together with thread without lapping on the bottom side. The flannel cover which helps to keep out gases that would tarnish the silver is glued between the back piece of cardboard and the drawer. Several slender screws through the sides of the drawer hold the frame in place. Camphor gum is sometimes placed in such drawers to create a heavy vapor that helps to prevent tarnish. Care must be taken not to let the piece of camphor touch the silver. A piece of camphor with a slit in the cellophane wrapper is pictured in the farther left-hand corner of the drawer in figure 28.

HANGING RACKS

Hanging racks on cupboard doors or on walls provide another way to increase cupboard capacity, to store supplies and equipment where used, and to make them easily accessible. Such racks may be built to hold flour sacks or cans, packaged supplies, spice cans, extract bottles, lids, shallow pans, dishes, cutlery, paper bags, salt and pepper shakers, wax paper, recipe books, recipe cards, rolling pins, kneading boards, and the like. Several kinds of racks are shown in the frontispiece and in figures 7, 14, 15, 22, 29, 30, 31, 36, and 37. When the racks are on cupboard doors, the opening of the door brings the articles within easy reach of the worker.

Construction

Racks, whether used on doors or walls, may be constructed in much the same way and of the same kinds of materials. They may be made of softwood (figures 32, 33, and 35) or of small wooden cheese boxes, as shown in figure 34. Three-fourths-inch board may be used for the ends of shallow racks; lattice or ply-wood for the bottoms; and lattice, ply-wood, or half-round molding for the fronts. When heavy containers or equipment are to be stored in a rack, a stronger material is needed or the bottom and

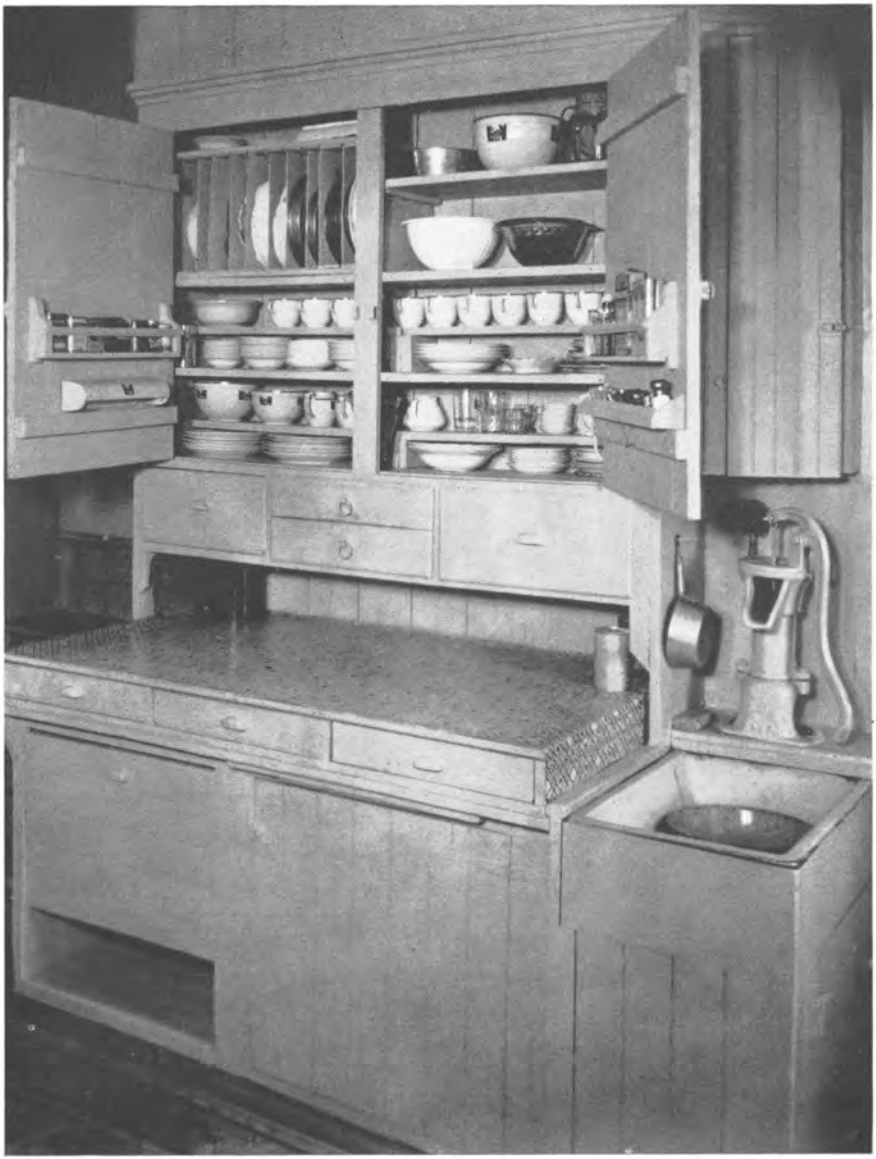


FIGURE 29. INCREASED DRAWER SPACE AND IMPROVED WORKING HEIGHT

In a rented house, the drawer space was increased by putting a raised platform over a work surface that was too low, thus making possible the addition of three shallow drawers. Stove crating was used for the platform and the removable shelves which were constructed as in figure 10. Lettuce crating was used for the upright partitions which are shaped as in figure 18C

FIGURE 30. RACKS ON DOORS

These substantial racks built on doors hold large sacks or tin cans of flour or sugar. Strong hinges are necessary for such doors

front boards need to be fastened together to prevent sagging. All racks are built without backs, as the door or wall serves this purpose.

Location

Racks on doors

A rack on a door should be shorter than the width of the door and should be placed some distance from the front edge to allow the door to be closed (figure 29). The deeper the rack, the greater the allowance needed. However, the rack may be placed flush with the back of the door where the hinges are fastened. Allowance of space is needed also for the rack inside the cupboard when the doors are closed. Shelves narrower than the depth

FIGURE 31. LOW UPRIGHT PARTITIONS

Upright shelves in the lower part of this cupboard are so shaped that utensils may easily be reached from the top. Notice the rack for the flour sack on the farther left-hand door

of the cupboard provide this space; or if the full-width shelf must be used, the dishes need to be placed far enough back on the shelf to allow for these racks.

If labels are used on cans or packages stored on the rack, the front support needs to be so placed that the labels can be seen above or below it

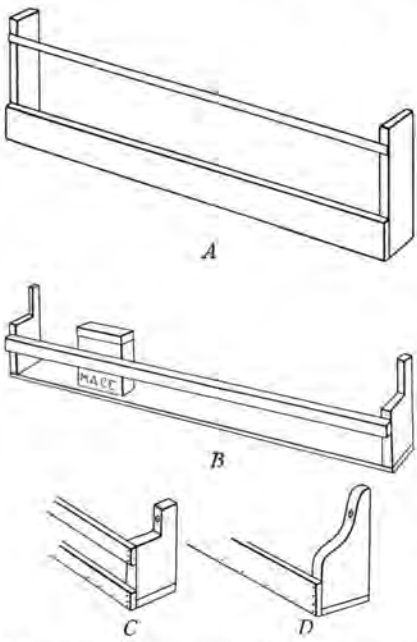


FIGURE 32. RACKS DESIGNED TO HANG ON A DOOR OR A WALL

A. This rack is designed to hold a platter on the inside of the cupboard door. Lattice was used for the bottom and the lower front; these two pieces were nailed together to keep the platter from slipping through. Half-round molding keeps the platter in an upright position near the top. This type of rack may also be used for other purposes. It is shown in use in figure 7

B. This spice rack is designed to show labels at the top or bottom of cans as used in figure 7. Lattice was used for the bottom and front supports

C. In this rack the lower front brace fastened to the bottom prevents the rack from sagging when filled with heavy cans or bottles

D. The end of a hanging rack may be variously designed. The low front support of lattice used in this rack is sufficiently high for most purposes

(figure 32*B*). Some homemakers prefer to leave an open space below the front support for ease in cleaning. If glass jars or heavy articles are to be stored in racks, it may be necessary to fasten the front and bottom supports together to prevent the rack from sagging at the bottom (figure 32*C*). The bottom piece may be of thick wood to prevent sagging, but if so the rack takes up more space.

When placing several racks one above the other, space is needed between them for convenience in removing articles (figure 31). The lower the front support, the less is the space needed between racks. Trying the arrangement with one's own equipment before installing the rack helps to determine this space. Screws are used to fasten racks to doors because they are secure and the racks can be removed. When racks are very wide, the ends may be cut back as in figure 32*C* and *D*, or 33,or the screw may be countersunk.

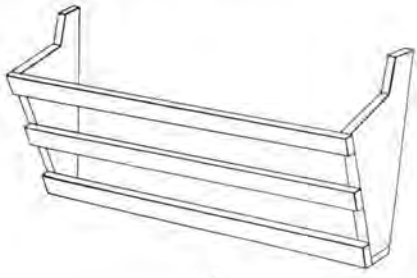
Thin door panels of glass or wood do not prevent the use of racks, provided the frame is wide and thick enough to hold screws (figure 14). The depression made by glass or wood paneling permits the use of a shallow rack, and it is often unnecessary to fit the bottom of the rack into this depression unless the articles to be stored are so small that they might fall through the space between the rack and the door (figure 15 and frontispiece).

Racks on walls

Racks on the wall are useful for the storage of lids at the stove (figure 37). The construction of one in which strips of lattice are used across the front is shown in figure 33*A*, and one with a solid front is shown in figure 33*B*.

Special racks

Racks for specific purposes may be designed to fit the articles to be stored.



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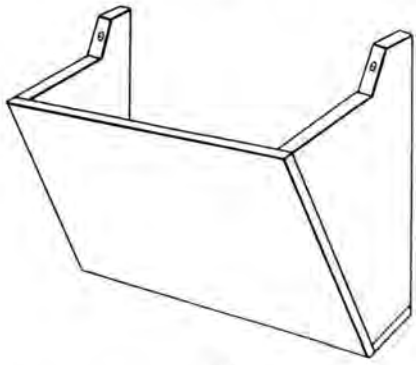


B

FIGURE 33. RACKS FOR PAPER, LIDS, OR SHALLOW PANS

A. Lattice strips were used for the front and the bottom of this rack. Three-fourths-inch lumber was used for the ends

B. The solid front of 3-ply-wood on this rack is especially useful for the storage of paper, as shown on the door in figure 21

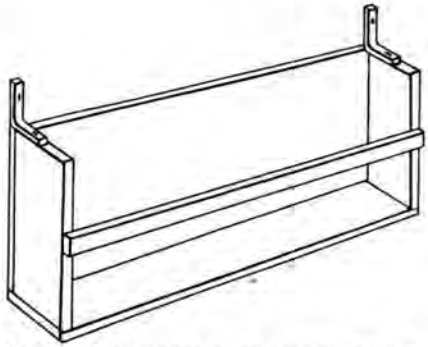


FIGURE 34. HANGING RACK MADE FROM A RECTANGULAR CHEESE BOX

Angle-irons are used to attach the rack to the wall

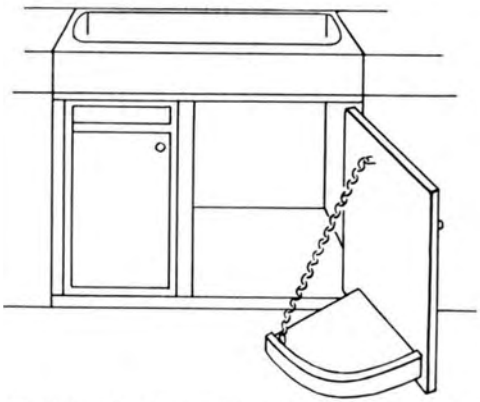


FIGURE 35. RACK FOR A LARGE CAN ON A CUPBOARD DOOR

This rack, to hold a garbage can, is supported underneath by angle-irons fastened to the door and by a chain from the top. A thin wooden barrel hoop or strip of sheet metal keeps the can from sliding off when the door is opened

FIGURE 36. EFFICIENT USE OF CUPBOARD SPACE

The ends of the racks on the doors are placed back from the front edge of the door to allow space for closing. The raised platform under the dish file at the top of this cupboard is useful for the storage of odd plates. The partitions of the file at the top have the deeper cut-away toward the bottom since the dishes are to be reached from below

FIGURE 37. A RACK FOR LIDS

A rack for lids near the stove saves time and steps. (The construction of this rack is shown in figure 33*A* and *B*.) Having the woodbox on swivel casters eliminates the carrying of wood

FIGURE 38. A RECESSED CUPBOARD

The recessed cupboard over the sink stores materials used there. It is especially helpful when floor space is limited. Wire racks like those hung on the cupboard door near the stove may be purchased in hardware departments and variety stores. Other types of racks are shown in figures 33 and 34

Racks for cutlery

Storing knives in a rack helps to preserve the cutting edge and helps in finding them easily when needed. Knife racks may be purchased or homemade, and may be of hard or soft wood. Several homemade varieties are shown in figure 39. Slots in a knife rack should be not much wider than the thickness of the particular blades to be placed in them, otherwise the knives will not stand upright. Wider slots are needed for meat forks and mixing spoons than for knives, but the width of all slots should be determined in accordance with one's own cutlery. There is less danger of the wood splitting while the rack is being shaped if the outer edges are curved as in figure 39*A* or *B*. If the cut follows the grain, the wood may split when weight is brought against it while in use (figure 39*C*). The raised front edge in figures 39*A* and 60 prevents the knives from sliding off if jarred.

A simple rack can be made by separating two strips of wood with blocks (figure 39*F*), or by fastening a leather strap to the wall in loops (figure 40). Since slipping the knives into the loops may damage the wall, it may be advisable to fasten the loops to a board hung on the wall. Some homemakers prefer an enclosed rack (figure 41). Others, who find it irritating

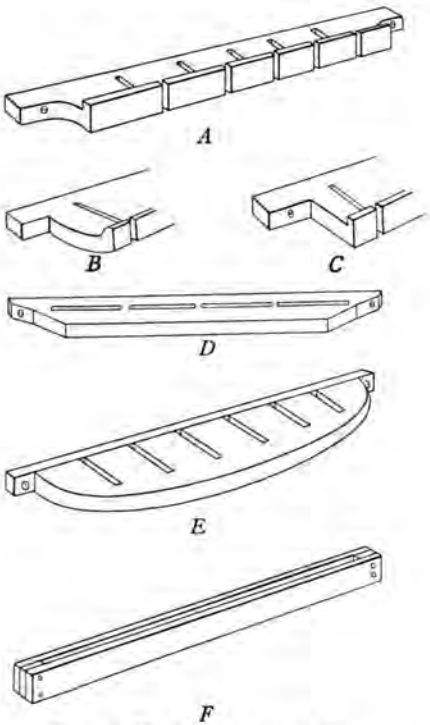


FIGURE 39. CUTLERY RACKS

A. This is a rack into which cutlery is pushed from the front. The raised rim keeps articles from sliding off

B. Another way to shape the ends of the rack is shown here. Curved edges are less apt to produce splitting of the wood than are edges cut with the grain as in *C*

C. Shaping the ends of a cutlery rack with and across the grain of the wood, although this is easier to do, may cause splitting as the rack is used

D. Another style of knife rack made by cutting slots into the wood

E. A knife rack made by cutting slots into one piece of wood and fastening it to another at the back

F. A cutlery rack may be made by separating two strips of lattice with narrow blocks of wood at each end

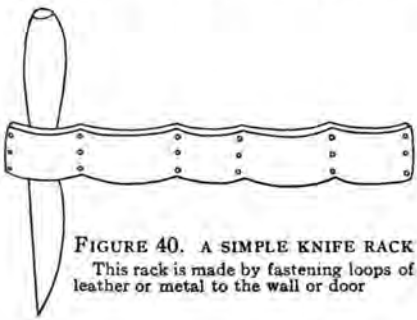


FIGURE 40. A SIMPLE KNIFE RACK

This rack is made by fastening loops of leather or metal to the wall or door

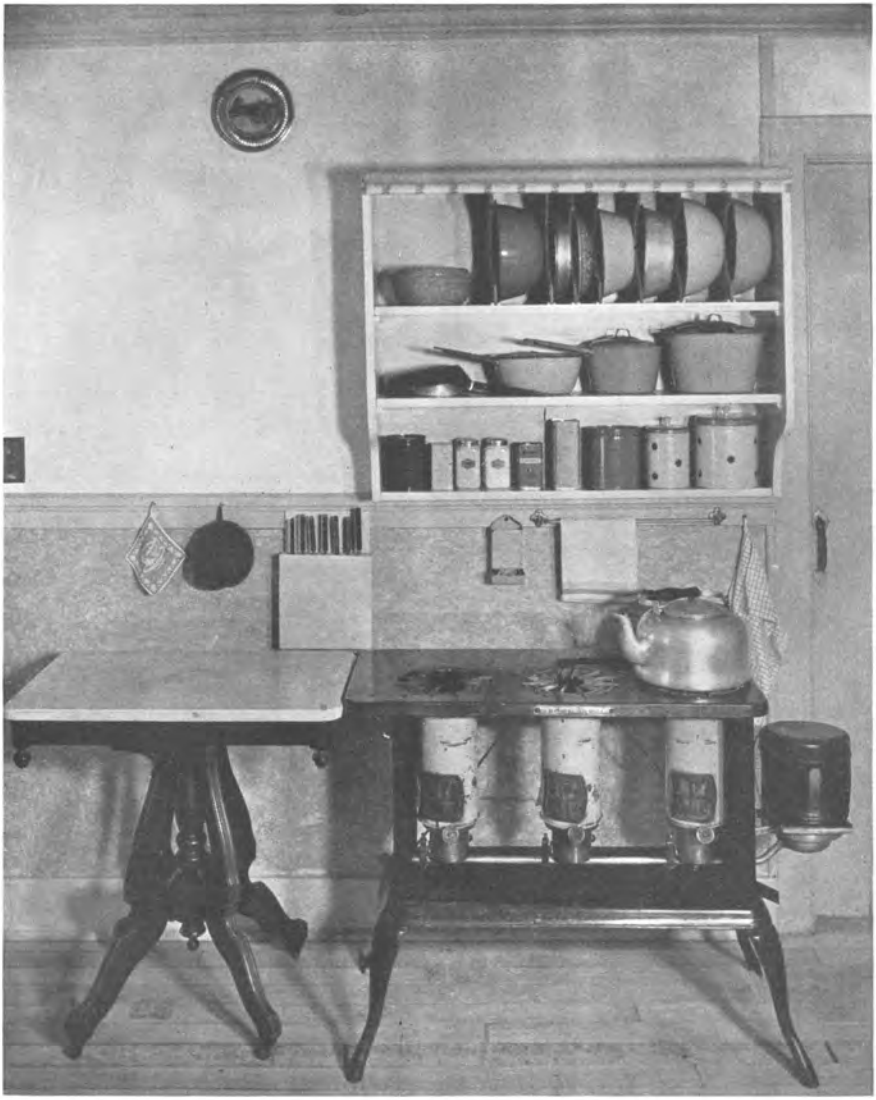


FIGURE 41. CONVENIENT STORAGE OF UTENSILS AT THE STOVE

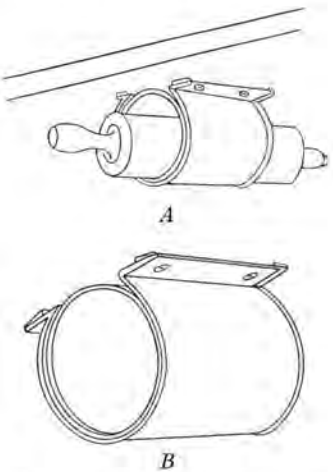
This backless cupboard, fitted tightly against the wall, stores equipment used at the stove. The shade roller has been covered with oilcloth and is supported with the type of window-shade fixture shown in figure 56*A*. The knife rack, in which the blades are enclosed in a box, is hung low so that the slots can be seen easily from the top

to search for the slot in the top of such a rack, prefer to use one in which the knives or other cutlery are pushed in from the front, as in figures 1, 39*A*, and 60. The rack in figure 1 was made from an old piece of walnut molding. The use of a knife rack in a drawer is shown in figure 59.

Racks for rolling pin and kneading board

Many ingenious ways have been used to store rolling pins and kneading boards. The rolling pin showing below the work surface in figure 1 rests in a tin rack made from one tomato can, size no. 2, and a second one, size no. 3. Both ends of the cans were removed with a can opener that turned in the sharp edges. The larger can was cut lengthwise and the smaller one was fitted snugly inside of it, as is shown in figure 42*B*. The smaller can serves as reinforcement, since the weight of the rolling pin might pull the single can out of shape. The rolling pin in position is shown in figure 42*A*.

Other methods of storing a rolling pin are shown in figure 43. Wire hooks may be used instead of the wooden supports shown in figure 43*B*. Ways of storing a kneading board are shown in figure 43*B* and *C*.



A

B

FIGURE 42. A PLACE FOR THE ROLLING PIN

A. This rolling pin rack is placed on the under side of a shelf

B. This rack is made from two tomato cans, a No. 2 and a No. 3. Both cans have had the ends cut off and turned under to produce smooth edges. The larger can was cut in two lengthwise, and the cut ends turned back. Then the smaller can was placed inside as a reinforcement, and the whole was fastened to the shelf with screws

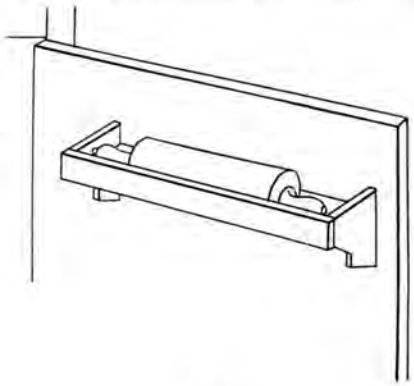
Racks for paper

Racks for paper are most satisfactory if the front is solid to prevent the paper from slipping through (figure 33*B*), and if they are removable to facilitate cleaning. The rack at the bottom of the cupboard near the stove in figure 48 has a removable front.

Racks for towels

Devices for hanging towels near where they are used are shown in figures 44, 45, and 46. Hardwood is most satisfactory for the rack shown in figure 46. The friction surfaces may be rubbed with dry soap to make the rack pull smoothly. Chair rounds or dowel stock may be used for the towel supports.

The rack in figure 45 resembles a bottomless drawer in which rods of



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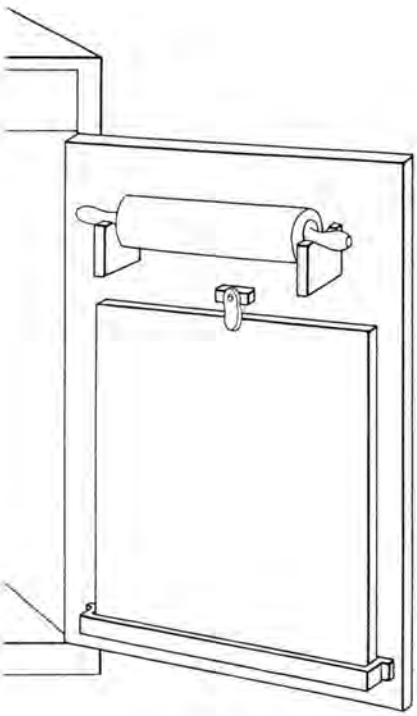

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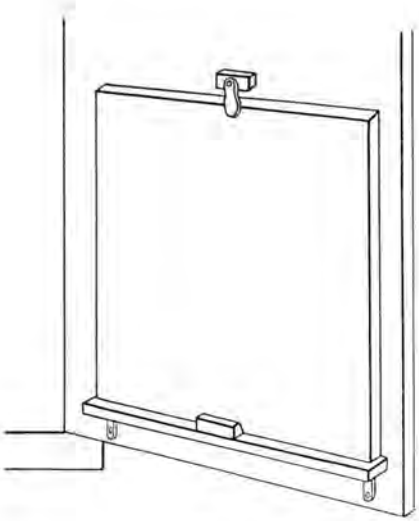


C

FIGURE 43. THE STORAGE OF A ROLLING PIN AND KNEADING BOARD ON A CUPBOARD DOOR

A. A screw driven through the lower part of each end of the rack and into the door will hold this rack in place

B. A screw driven into the door through the cut-out which supports the rolling-pin handle holds this rack in place. The rack that keeps the kneading board in place at the bottom may be made of wood or metal

C. The shallow platform which holds the rack at the bottom is fastened to the door with angle-irons. The inside edge of the cleat in the center front of this platform is slightly beveled to facilitate removal of the kneading board

dowell stock are placed parallel to hold towels dropped over them from the top. Such a drawer could be placed under one end of the sink. If the sink is enclosed, a plan should be made for ventilation in the doors.

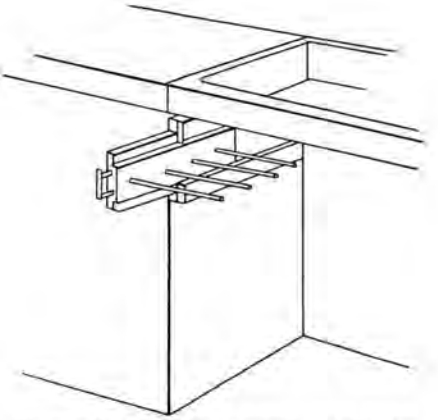


FIGURE 44. A SLIDING TOWEL RACK MADE OF HARDWOOD

The towel supports are made of chair rounds or dowel stock. This rack is shown in use in figure 46

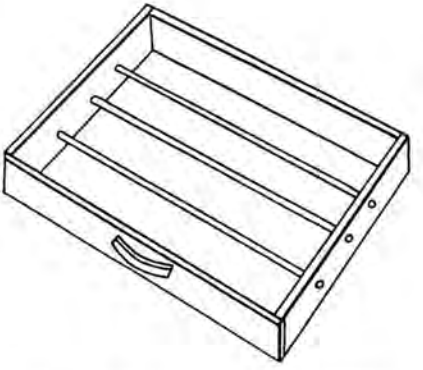


FIGURE 45. DRAWER WITH TOWEL RODS REPLACING THE BOTTOM

This drawer may be placed under one end of the sink

FIGURE 46. A SLIDING TOWEL RACK

The towel rack under the sink is made of hardwood from chair-round stock for the towel supports. A detailed drawing of this rack is shown in figure 44

DEVICES FOR HANGING UTENSILS

Storage of equipment is simplified if measuring cups, spoons, and other utensils are conveniently hung on hooks or nails (figures 5, 47, 48, and 49). Hooks should be of a size and shape to suit the particular purpose. Those

FIGURE 47. SHELVES AND NAILS OVER A WORK TABLE

These convenient shelves and nails are used to concentrate near the work surface supplies and small utensils frequently used there

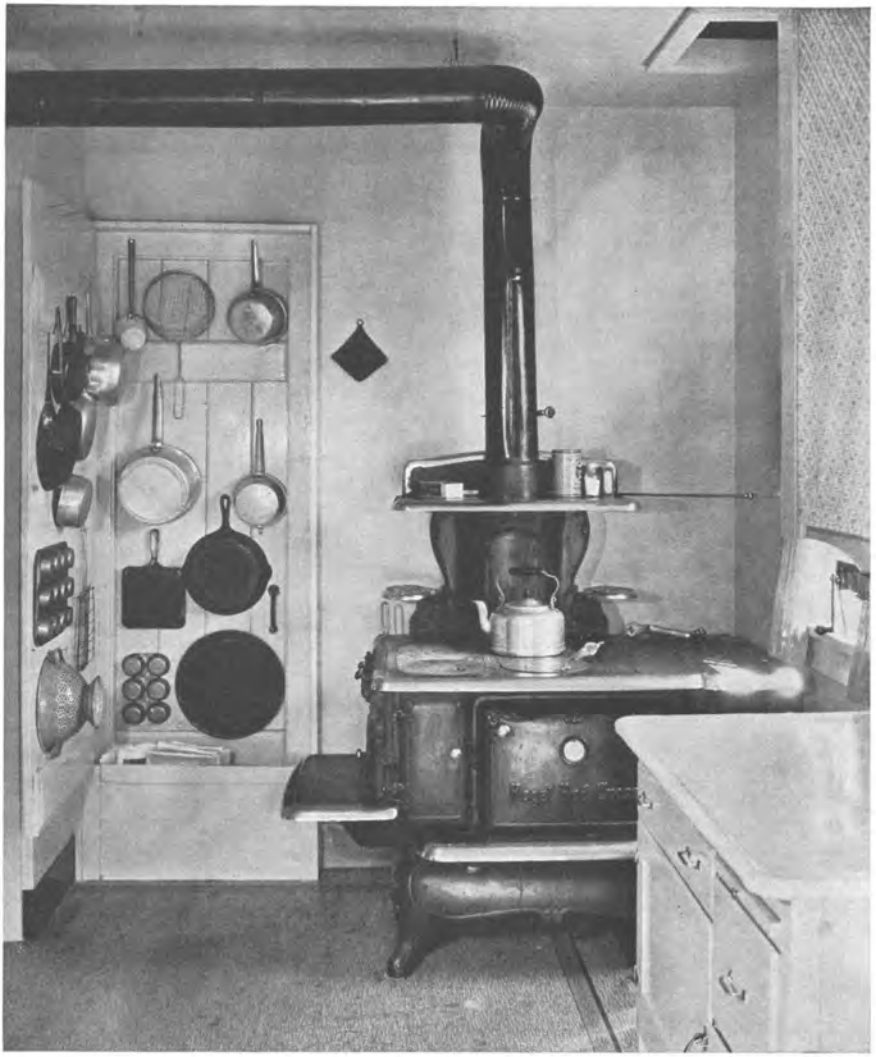


FIGURE 48. A SHALLOW CUPBOARD MADE FROM A DOORWAY

The closing of one entrance to the dining room provides a cupboard for utensils used at the stove. A six-inch frame around the entrance door permits the hanging of utensils there as well as upon the inside of the door which closes the cubpoard. Since the cupboard can be closed only if each article is in its assigned place, it may be desirable to paint on the wood the shape of each article. This is also helpful in drawer arrangement

FIGURE 49. STORAGE NEAR A STOVE

Most of the equipment at this stove center was formerly stored in the pantry or a back room. The family prefers to have some utensils in view in order to have them conveniently near

that are only slightly curved allow a utensil to be pushed or hooked upon them easily, while those with a decided inward bend at the tip require extra effort in the hanging of utensils. Cup hooks are curved more than is needed for other purposes and require more motions in placing an article than do nails; they are easier to use if part of the hook is cut off (figure 50*B*), or if the curve of the hook is straightened out (figure 50*C*). It is advisable to file off the cut end of a hook to insure a dull edge.

Glass or thin wood paneling prevents the use of hooks or nails on doors unless wooden braces are provided for this purpose (figure 60), or the hooks are fastened to a board hung on the door (figure 61).

The hanging of glass or china cups by the handles may cause the handles to chip or crack and finally break off. For this reason, narrow shelves are better for the storage of cups than are hooks (figure 7).

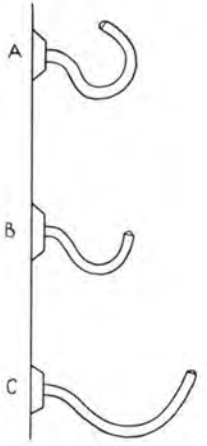


FIGURE 50. MAKING THE BRASS CUP HOOK MORE USEFUL

A. A brass cup hook before it is cut off and filed smooth as in *B*, or pulled out as in *C*

CUPBOARD DOORS

Some cupboards may be improved by making changes in the doors.

FIGURE 51. A CUPBOARD OPENING ENLARGED

To allow for the removal of a bowl, the small door at the top left was made by cutting through the blind front of this part of the cupboard and hinging this cut-out part to the side wall. The space below was not opened in the same way because this part of the cupboard contains side shelves

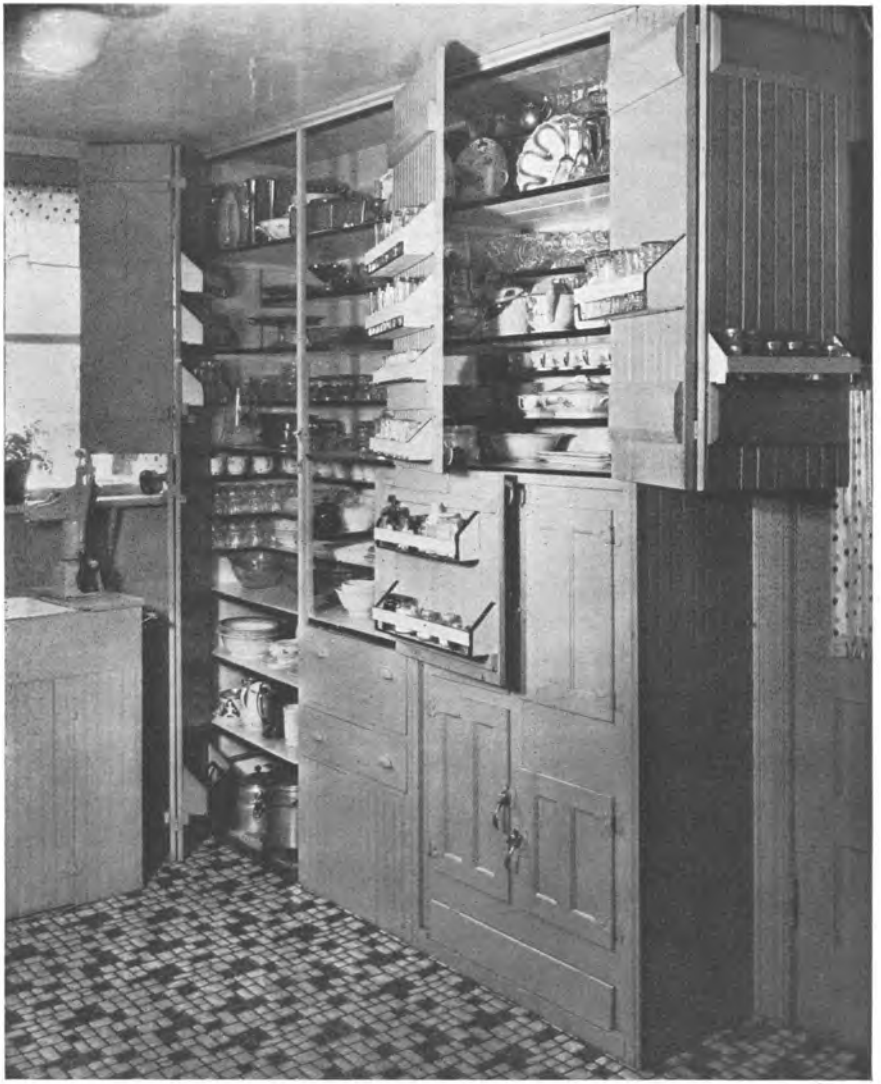


FIGURE 52. DOUBLE-HINGED DOORS

Wide doors were cut in two lengthwise and double-hinged to make them less cumbersome. Strong hinges are necessary when heavy articles or many racks are placed on doors. The originally wide shelves were cut back in the center to allow for racks on the doors

Roller shades in place of doors

In using some kitchen cabinets or cupboards, it is necessary for one to remove articles on the work surface in order to open or shut the doors above it. The removal of doors or the substitution of roller shades for such doors (figure 1) eliminates this difficulty as well as the possibility of one being struck by the opening door.

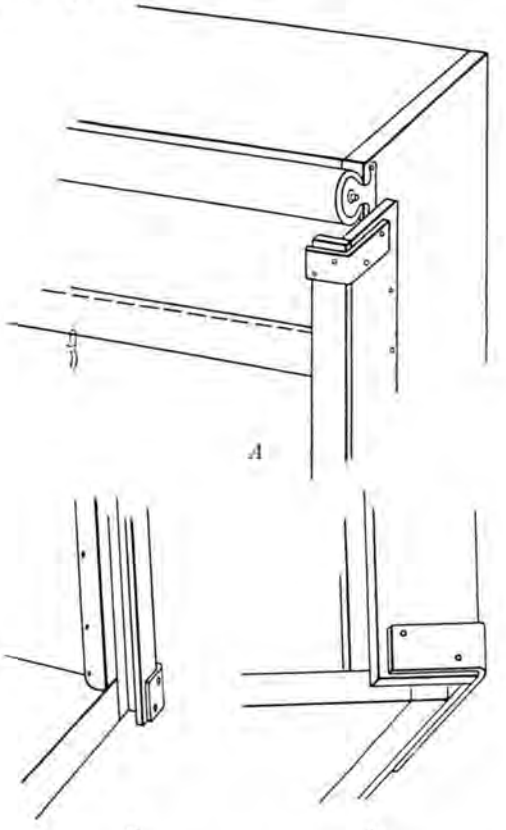


FIGURE 53. THE USE OF LATTICE FOR A WINDOW-SHADE RACE

Two strips of lattice make the outside of the shade race, and quarter-round molding completes it on the inside of the cupboard. An inside view at the bottom of the race is shown in *B* and an under view in *C*. The roller-shade fixture is the kind usually used in supporting shades at windows; here, however, the end which fastens to the window frame is hammered flat as in figure 56*B*

Spring rollers in any length and without the shades, and rings for pulls, can be purchased at most stores in which window shades are sold. Some homemakers prefer oilcloth to the usual window-shade material. A dull

variety of plain or figured oilcloth is often preferable to that with high gloss because it does not produce a glare nor does it stick together as easily as do some of the glossy kinds. Oilcloth can be more easily cleaned than most window-shade materials within its price range. Care must be taken to fasten the oilcloth to the roller with the threads seen on the back of the oilcloth running as nearly parallel to the roller as possible. It is also desirable to extend the cloth to the extreme edges of the roller—even to cover the tin caps—but not to go beyond them.

Various methods in use to keep the shade close to the cupboard are shown in figures 53, 54, and 55. The troughs, grooves, or casings should be at least 1 inch deep and only wide enough to allow the free passage of the wooden support at the bottom of the shade. About ½ inch is usually enough no matter which method is used. If the groove is shallow or if there is a large amount of play in it, the shade is apt to pull out of place, and it wears out more rapidly. The outer frame of the groove in figure 53 is made of two strips of 1⅜-inch lattice, strengthened with metal angle irons which have not been fastened except at the side of the cupboard. These irons keep the lattice from warping outward and, unless pressure is brought against the lattice, will not warp inward. A strip of 1-inch quarter-round molding on the inside of the cupboard completes the groove. The details of this construction are shown in figure 53*A*, *B*, and *C*. Two ways to make a groove of sheet metal, such as galvanized iron or copper, are shown in

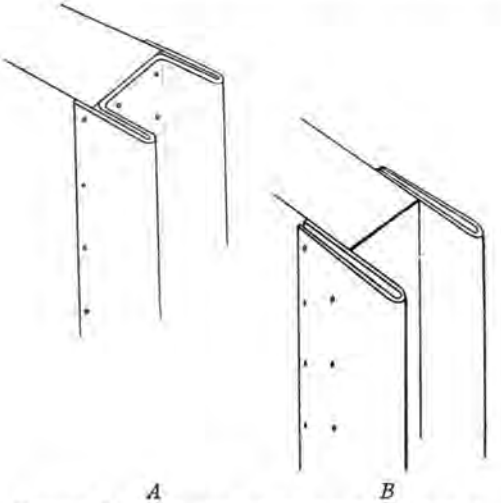


FIGURE 54. THE USE OF SHEET METAL FOR A WINDOW-SHADE RACE

A. This race is made in one piece and is nailed in the center

B. This race is made of two strips of sheet metal nailed on either side of a thin board

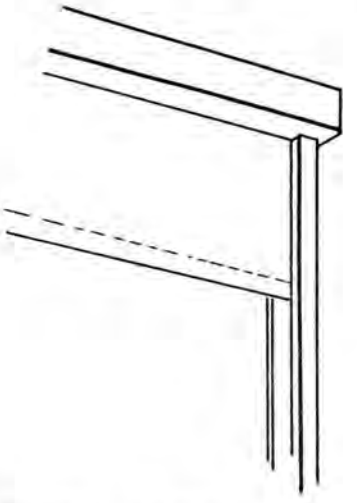
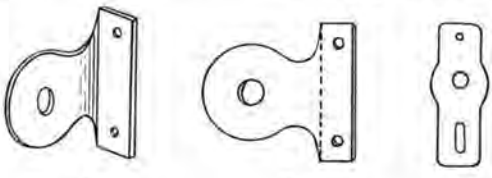


FIGURE 55. A BOX TO COVER THE TOP OF A ROLLER SHADE

A cover of this kind keeps the top of the roller shade free from dust

figure 54. Folding the metal back on itself insures a dull edge; if this is not possible the metal may be filed.

Three kinds of roller shade supports are shown in figure 56. One (figure 56*B*) is the same kind of fixture as that shown in figure 56*A*, but the end has been hammered flat and is shown in use in figure 53*A*. In figure 41, the fixture is used without being hammered flat (figure 56*A*).



A *B* *C*

FIGURE 56. FIXTURES TO FASTEN WINDOW SHADES TO A CUPBOARD

A. This is the window-shade fixture used over the cupboard in figure 41

B. This is the same window-shade fixture as that shown in *A*, with the end which is used to fasten the fixture to the cupboard hammered flat, as in figure 53*A*

C. This fixture is for use when the shades fit inside of the frame, as in figure 1

The fixture in figure 56*C* is used if the roller shade fits inside the cupboard, as in figure 1. The top of the roller shade may be left uncovered, as in figure 41, or covered with a box-like structure (figures 1 and 55).

A large ring or pull cord in the center of the wooden reinforcement at the bottom of the shade lengthens its life.

Raising doors

Another way to eliminate the problem created by cabinet doors that brush over the work surface in opening is to raise the top part of the cabinet about 15 to 18 inches above the bottom part. The top may then be fastened to the wall with brackets underneath and screws through the back. This arrangement creates more work surface by freeing the space upon which the top rested. A similar arrangement can be made in improving built-in cupboards that present such a problem, but since the top cannot be raised above the work surface without tearing the cupboard away from the wall, one may proceed as suggested under figure 1. In figure 57 three old cabinets, and in figure 58 two cabinets, have been raised above the work surface.

Improving wide doors

If very wide doors are inconvenient, they may be cut in two lengthwise and so hinged together that they can be folded out of the way as the door of a telephone booth folds (figure 52), or they may be removed and replaced by roller shades.

KITCHEN CABINETS

If a kitchen cabinet contains much waste space, and has inadequate working surface, it may be improved as shown in figures 57, 58, 59, 60, 61, and 62.

FIGURE 57. THREE KITCHEN CABINETS REMODELED

The three old cabinets in this picture were placed to make a continuous working surface, and two of the tops were raised on brackets to provide a work surface below them. Screws through the backs of the top cupboards give additional support

PLATFORMS ON SWIVEL CASTERS

Many homemakers have found platforms on swivel casters helpful in bringing large containers of flour or sugar to the work center where they are used. Cans are often more satisfactory than bins fastened into a cupboard, unless the bins are removable for cleaning and airing. A round board bounded by the hoop of a round cheese box to confine the can is shown in figure 63. A strip of metal could be substituted for the hoop. In figure 65, the can is raised on a large cheese box to prevent excessive stooping. In figure 64, corner cleats are provided to hold the can on the platform as it is moved about.

FIGURE 58. THE UPPER PARTS OF KITCHEN CABINETS RAISED ABOVE WORK SURFACES

This is another solution of the kitchen-cabinet problem for a household all the members of which are tall. Blocks have been placed under the legs of the base cabinets to increase the height

FIGURE 59. PARTITIONS OF MANY KINDS

In order to make the grooves for the upright partitions of iron sheeting in the top part of this kitchen cabinet, the back of the cabinet was temporarily removed to permit the sawing of the grooves. The files in the lower cupboard are built on a sliding shelf and are supported only at the bottom. The drawer shows a cutlery rack in position. Construction details of upright partitions and grooves are shown in figures 17, 18, and 19

FIGURE 60. ADDING TO A KITCHEN CABINET

The built-on section above this cabinet makes possible the storage of additional equipment at the food-preparation center. Because of limited storage space, articles are hung in view, in order to have at hand all commonly used utensils. The raised rim on the front edge of the cutlery rack prevents articles from falling off when the door is opened. Construction details of cutlery racks are shown in figures 39 and 40

FIGURE 61. A CUPBOARD TO THE CEILING

The cupboard built between the top of the cabinet and the ceiling holds seldom-used equipment. Since it is necessary to reach only the bottom edge of each utensil in the file and since the homemaker is tall, the utensils stored there are easily removed and put back

FIGURE 62. A BACKLESS CUPBOARD OVER THE BASE OF A CABINET

This arrangement of a remodeled base of a cabinet over which a backless cupboard is hung was exhibited at a county fair. The space next to the wire strainer was left for an electric outlet switch. The rack on the swinging door is reinforced by the board at the back. Notice that the door knob is directly opposite the friction catch, so that pull is exerted where most effective in opening and closing the door

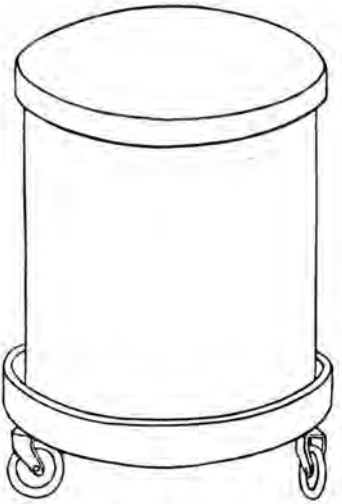


FIGURE 63. A FLOUR BIN ON SWIVEL CASTERS

The cover of a large round cheese box makes this platform on swivel casters

FIGURE 64. A MOVABLE PLATFORM

A thick block of wood and swivel casters make this movable platform. Corner blocks keep a large can from sliding off

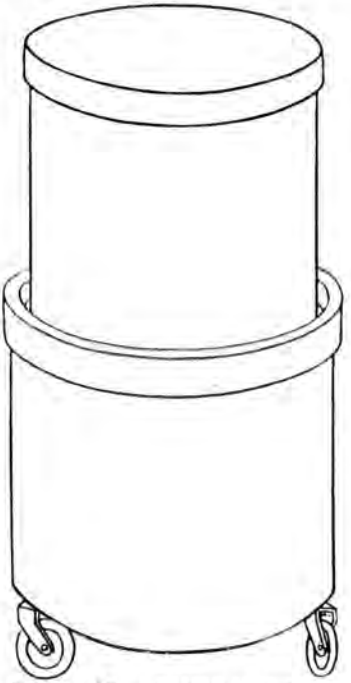


FIGURE 65. A RAISED FLOUR BIN

To eliminate stooping, this platform on swivel casters was made from a whole cheese box with a reinforced bottom

FIGURE 66. A PLACE FOR A WASHING MACHINE

This cupboard solves the problem of housing the washing machine in the kitchen. Separate doors for the top and bottom sections of the cupboard simplify its use

FIGURE 67. A COVER FOR A WASHING MACHINE

The cover for this washing machine, constructed of 3-ply-wood, provides additional table space in the kitchen, even though it may be too high for a work surface

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